

Standards Activity for Spacecraft Onboard Interfaces

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The Consultative Committee for Space Data Systems (CCSDS) is an international organization of national space agencies (such as NASA in the United States) that is organized to promote the interchange of space related information. Now, CCSDS is branching out to provide new standards for the interchange of information, and the interconnection of subsystems and devices onboard of a spacecraft. This effort is known as Spacecraft Onboard Interface (SOIF). SOIF will publish standards that will allow for the enhanced reuse of spacecraft equipment and software. SOIF expects that these standards will be well known and used within the space community, and that they will be based on or similar to the well-known Internet protocols. This paper will provide a description of the SOIF work by reviewing this work with three orthogonal views. The first of these views is the Protocol view, which describes the protocols and services that are to be implemented in order to provide the users with the advantages of the SOIF architecture. The second of these views is the Services View, which describes the data communications services that are provided to the users. And finally, the Interoperability view provides a description to users how SOIF can be used to interchange between different spacecraft data busses. This paper will give the reader an excellent introduction to the work of the international SOIF team.